STATEMENT OF WORK FOR
REMEDIAL INVESTIGATION/FEASIBLITY STUDY
LIBBY ASBESTOS SITE
OPERABLE UNIT 3

1. INTRODUCTION

The purpose of the remedial investigation/feasibility study (RI/FS) for Operable Unit 3 (OU3) of the Libby Asbestos Site (the Site), is to investigate the nature and extent of contamination within the OU3 boundaries and to develop and evaluate potential remedial alternatives for OU3.

EPA established preliminary boundaries for OU3 for the purpose of planning and developing the initial scope of the RI/FS. The preliminary boundaries include the former vermiculite mine and the surrounding geographic area that has been impacted by current and/or historical releases from the mine including the access road, Rainy Creek, the Kottenai River and streams and ponds within the impacted area. EPA will determine the final OU3 boundaries based on the information generated during the RI/FS.

2. PURPOSE OF THE STATEMENT OF WORK

This Statement of Work (SOW) sets forth requirements for conducting an RI/FS at OU3 of the Site. The Respondent shall conduct the RI/FS in accordance with this SOW and the requirements in the Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Feasibility Study (Administrative Order) and consistent with the National Contingency Plan (40 CFR Part 300) and "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (OSWER Directive 9355.3-01, October 1988) and any other guidance documents that EPA identifies as relevant to any aspect of conducting an RI/FS for OU3. A list of the primary guidance documents is included as Attachment A to this SOW.

EPA will conduct the baseline human health risk assessment and ecological risk assessment components of the RI. At the completion of the RI/FS, EPA will prepare a proposed plan that briefly describes the remedial alternatives analyzed in the feasibility study, proposes a preferred remedial action alternative for OU3, and summarizes the information relied upon to select the preferred alternative. EPA will provide the public with a reasonable opportunity to comment on the proposed plan. After receiving public comments on the proposed plan, EPA will select a remedy for OU3 and will document this selection in a Record of Decision (ROD). The final RI/FS report, as adopted by EPA, EPA's baseline human health risk assessment and ecological risk assessment, and the administrative record for OU3 will form the basis for the selection of the remedy for OU3 and will provide the information necessary to support the development of the ROD for OU3.

As specified in CERCLA Section 104(a) (1), as amended by SARA, EPA will provide oversight of the Respondent's activities throughout the RI/FS. The Respondent shall support EPA's initiation and conduct of oversight activities.

Performance of the work described in this SOW by the Respondent and EPA's review and approval of documents and activities described in this SOW shall be performed in accordance with the procedures described in the Administrative Order. The Respondent shall furnish all necessary personnel, materials, and services needed or incidental to, performing the work described in this SOW, except as otherwise specified in the Administrative Order.

3. INITIAL PLANNING FOR THE REMEDIAL INVESTIGATION

3.1 Assemble Existing Information

The Respondent shall assemble existing Site information relevant to the RI/FS for OU3 including but not limited to:

- All existing documentation and reporting of historical operations at the former vermiculite mine,
- All existing mine reclamation plans and reports,
- All existing environmental sampling and analysis plans, and
- All existing environmental and other data, maps and photos.

This shall include available data relating to the types and quantities of hazardous substances, pollutants, or contaminants within OU3 and past disposal practices at the former vermiculite mine.

The Respondent shall provide the information to EPA in accordance with the schedule contained in Section 10 of this SOW.

3.2 Conduct Site Visit

The Respondent shall conduct a Site visit of OU3 during the project scoping phase to assist in developing a conceptual understanding of sources and areas of contamination as well as potential exposure pathways and receptors at OU3. The Respondent shall invite EPA and the State to participate in the Site visit and provide at least two weeks notice of the proposed date. EPA may invite other interested agencies to participate in the Site visit.

3.3 Project Scoping Summary

Based on review of the existing Site information and the Site visit, EPA will develop preliminary problem statements, conceptual site models of potential exposure pathways and potential human health and ecological receptors, preliminary remedial action objectives, and a preliminary list of potential State and federal ARARs in a project

scoping summary document. EPA will provide copies of the document to the Respondent for review in accordance with Section ____ of the Administrative Order.

Comment [R1]: I don't know if there is a provision in the AO for Respondent's review and comment on EPA documents. This comment applies to section below regarding EPA SAPs and risk assessment documents.

4. COMMUNITY RELATIONS

EPA will develop and implement community relations activities for OU3. The Respondent shall, as requested by EPA, assist EPA by providing information regarding the Site's history, participating in public meetings, developing graphics, preparing fact sheets for distribution to the general public upon approval by EPA, placing newspaper ads developed by EPA, or distributing fact sheets developed by EPA. All Respondent-conducted community relations activities will be subject to oversight by EPA.

5. SITE CHARACTERIZATION

The overall objective of site characterization is to describe the nature and extent of contamination within OU3 and to describe areas of OU3 that may pose a threat to human health or the environment. The Respondent shall perform the activities described in this section including:

- Implementing EPA-approved SAPs;
- Documenting field activities;
- Arranging for the laboratory analysis of samples in accordance with the EPA-approved SAPs;
- Delivering laboratory data to EPA in the format specified in the SAPs;
- Preparing summary reports for each phase of investigation; and
- Preparing a draft and final RI report.

The Respondent shall notify EPA at least two weeks in advance of field work starting for each phase of the RI and shall provide a monthly progress report and participate in meetings at EPA's request. The Respondent shall notify EPA in writing upon completion of field activities for each phase of the RI.

5.1 Development and Implementation of Sampling and Analysis Plans

EPA will develop a Sampling and Analysis Plan (SAP) for each phase of the RI. It is anticipated that there will be multiple phases of the RI, the number of phases required will be determined by EPA. The SAP for each phase of the RI will consist of a description of the goals for the specific phase, a list of key personnel and responsibilities, Data Quality Objectives (DQOs), a Field Sampling Plan (FSP), a Quality Assurance Project Plan (QAPP), a data management plan and a schedule. Each FSP will describe the sampling program including the rationale, number, type, and location of samples; the sample collection, handling and custody procedures; the required field documentation and the required analytical methods. Each QAPP will describe the measures necessary to generate data of sufficient quality to achieve the DQOs. The QAPP will contain details of any special training requirements and certifications, quality control requirements for field activities and analytical processes, and data validation requirements. EPA will

provide copies of the draft SAP for each phase of the RI to the Respondent for review and comment in accordance with Section ___ of the Administrative Order.

The Respondent shall prepare a Site Health and Safety Plan (HSP) and submit it to EPA and the State. The Respondent shall obtain access to properties for sampling and shall implement each final EPA-approved SAP in accordance with the schedule described in the SAP. The Respondent shall arrange for analytical data from laboratories to be reported directly to EPA in the format specified by EPA in the SAP. EPA will perform all required data validation described in the SAP.

The Respondent shall consistently document and adequately record in well maintained field logs and laboratory reports, information gathered during site characterization. The method(s) of documentation shall be consistent with that specified in the SAP. The Respondent shall use field logs to document observations, measurements, and significant events that occur during field activities. The Respondent shall ensure that laboratory reports document sample custody, analytical responsibility, analytical results, adherence to prescribed protocols, nonconformity events, corrective measures, and/or data deficiencies.

The Respondent shall maintain field reports and sample shipment records. Analytical results developed under the SAPs shall not be included in any site characterization summary reports or RI reports unless accompanied by or cross-referenced to a corresponding QA/QC report. In addition, the Respondent shall establish a data security system to safeguard field logs, field data sheets, laboratory reports, chain of custody forms and other project records to prevent loss, damage, or alteration of project documentation.

5.2 Summary Reports

For each phase of the RI, the Respondent shall prepare a summary report describing the implementation of the SAP and presenting summaries of the analytical results. Each summary report shall include the field documentation specified in the SAP, the results of all required field quality control procedures, and the results of all field and laboratory audits performed by the Respondent as specified in the SAP. In the summary report for each phase of the RI, the Respondent shall describe and display site data documenting the location and characteristics of surface and subsurface features and contamination within OU3 including the affected medium, location, types, physical state, concentration of contaminants, and quantity. In addition, the Respondent shall document the location, dimensions, physical condition and range of concentrations of each contaminant throughout each source and the extent of contaminant migration through each of the affected media. The Respondent shall submit a summary report for each phase of sampling to EPA and the State for review and EPA approval in accordance with Section X of the Administrative Order and the schedule established in the EPA-approved final SAP for that phase.

Comment [R2]: Here's an example of language specific to the State's role. Since we haven't had a chance to talk to the State about this, I just put this language in as a suggestion. Final language will depend on State's role.

Within each summary report the Respondent shall analyze and evaluate the data to describe the following:

- Site physical and biological characteristics,
- Contaminant source characteristics,
- Nature and extent of contamination, and
- Contaminant fate and transport.

The summary report will include the actual and potential magnitude of releases from the sources, and horizontal and vertical spread of contamination as well as mobility and persistence of contaminants. Where modeling is appropriate, such models shall be identified to EPA and the State a letter prior to their use. All data and programming, including any proprietary programs, shall be made available to EPA and the State. Also, this evaluation shall provide any information relevant to site characteristics necessary for the development and evaluation of remedial alternatives.

5.3 RI Report

After the final phase of the RI has been implemented and upon EPA approval of the summary report for that phase, the Respondent shall prepare and submit a draft RI report to EPA and the State for review and EPA approval in accordance with the schedule contained in Section 10 of this SOW. The RI report shall summarize results of field activities to characterize OU3, the sources of contamination, the nature and extent of contamination and the fate and transport of contaminants. The Respondent shall refer to Table 3-13 in "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA", OSWER Directive 9355.3-01, October 1988 for a suggested RI report format with the exception that EPA will prepare the Baseline Human Health Risk Assessment and the Baseline Ecological Risk Assessment.

5.4 Remedial Action Objectives

EPA, in consultation with the State, will develop remedial action objectives and a refined list of potential State and federal ARARs based on the information provided in the final EPA-approved RI report and the baseline human health risk assessment and ecological risk assessment prepared by EPA. EPA will provide copies of the remedial action objectives and ARARs to the Respondent for review and comment in accordance with Section ___ of the Administrative Order.

Comment [R3]: Will depend on State's role

6. DEVELOPMENT AND SCREENING OF REMEDIAL ALTERNATIVES

The Respondent shall perform the following activities to complete the development and screening of remedial alternatives.

6.1 Develop General Response Actions

The Respondent shall develop general response actions that will satisfy the remedial action objectives. General response actions may include treatment, containment, excavation, extraction, disposal, institutional controls, or a combination of these.

For each environmental medium for which remedial action objectives have been developed by EPA in consultation with the State, the Respondent shall make an initial determination of areas or volumes to which general response actions may apply, taking into account OU3 conditions, the nature and extent of contamination, and acceptable exposure levels and potential exposure routes identified in the remedial action objectives.

6.2 Identify and Screen Remedial Technology Types and Process Options

The Respondent shall identify and evaluate remedial technology types and process options applicable to each general response action. The term "technology types" refers to general categories of technologies. The term "process options" refers to specific processes within each technology type. Several broad technology types may be identified for each general response action and numerous technology process options may exist within each technology type.

The Respondent shall use information from the RI on contaminant types and concentrations and OU3 characteristics to screen out technologies and process options that cannot be effectively implemented at OU3. The Respondent shall document the results of the initial screening of technology types and process options. The Respondent shall refer to Figures 4-4 and 4-5 in the "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA", OSWER Directive 9355.3-01, October 1988 for examples of figures that may be used to summarize the initial screening of technologies and process options and the evaluation of process options.

6.3 Assemble and Document Alternatives

The Respondent shall assemble selected representative technologies into alternatives that represent a range of treatment and containment combinations that will address the remedial action objectives for OU3. The Respondent shall specify the reasons for eliminating alternatives during the preliminary screening process.

6.4 Alternative Screening and Selection of Alternatives for Detailed Analysis

The Respondent shall perform a screening of each remedial alternative based on effectiveness, implementability, and cost. As appropriate, the screening will preserve the range of treatment and containment alternatives that was initially developed. The range of remaining alternatives will include options that use treatment technologies and permanent solutions to the maximum extent practicable.

6.5 Development and Screening of Alternatives Technical Memorandum

The Respondent shall prepare a technical memorandum summarizing the work performed in the development and screening of alternatives and the results of each subtask described in this section including:

- A description of the general response actions and the areas or volumes of contaminated media to which they apply,
- A description of the remedial technology types and process options applicable to each general response action,
- The results of the initial screening of remedial technology types and process options,
- A description of the remedial alternatives,
- The results of the screening of alternatives based on effectiveness, implementability, and cost,
- A description of the alternatives that remain after screening and the action-specific State and federal ARARs for each alternative.

The Respondent shall submit the technical memorandum to EPA and the State for review and EPA approval in accordance with Section X of the Administrative Order and in accordance with the schedule contained in Section 10 of this SOW.

7. TREATABILITY STUDIES

EPA may require the Respondent to perform treatability studies to provide sufficient data to allow treatment alternatives to be fully developed and evaluated during the feasibility study and/or to reduce the cost and performance uncertainties for treatment alternatives to levels sufficient to allow EPA to select a remedy.

At any point in the RI/FS process before or concurrent with the detailed analysis of remedial alternatives, the Respondent shall identify a range of candidate technologies for treatability studies based on the remedial action objectives and the list of potential State and federal ARARs. The Respondent shall describe the candidate technologies in a letter report submitted to EPA and the State for review and EPA approval in accordance with Section X of the Administrative Order and the schedule contained in Section 10 of this SOW.

Within the letter report, the Respondent shall present information on performance, relative costs, removal efficiencies, operation and maintenance requirements, and implementability of the identified candidate technologies. If the existing data on OU3 and the available information on candidate technologies are not sufficient to evaluate alternatives in the detailed analysis of alternatives, EPA may require treatability studies to be performed by the Respondent.

Where EPA has determined that treatability studies are required, and unless the Respondent can demonstrate to EPA's satisfaction that they are not needed, the Respondent shall submit a draft treatability study work plan to EPA and the State for

review and EPA approval in accordance with Section X of the AOC. The work plan shall describe the type of treatability study to be performed (e.g., bench scale or pilot scale) and shall include:

- a discussion of background information on OU3;
- a list of key personnel and responsibilities;
- a description of the remedial technologies to be tested;
- DQOs for each test including measurements of performance;
- the experimental procedures for each test;
- a SAP which describes the samples to be collected, sample collection procedures, sampling handling and tracking procedures, a QAPP, and analytical methods;
- a data management plan;
- a health and safety plan; and
- a plan for management of waste generated during the treatability tests.

Upon EPA approval of the treatability study work plan, the Respondent shall implement the work plan. Following completion of the treatability study, the Respondent shall analyze and interpret the study results in a technical report submitted to EPA and the State for review and EPA approval in accordance with Section X of the AOC and the schedule contained in Section 10 of this SOW. In the report the Respondent shall evaluate the effectiveness, implementability, and cost of each technology and compare test results with predicted results. The Respondent shall also evaluate full-scale application of the technology including a sensitivity analysis identifying key parameters affecting full-scale operation.

8. DETAILED ANALYSIS OF ALTERNATIVES

Upon EPA approval of the Development and Screening of Alternatives Technical Memorandum, the Respondent shall perform a detailed analysis of the remaining remedial alternatives. The detailed analysis shall be sufficient to allow EPA to adequately compare the alternatives, select a remedial action for OU3, and demonstrate satisfaction of the CERCLA statutory remedy selection requirements (§121(b)(1)(A) of the CERCLA).

The Respondent shall assess each alternative against the following seven of the nine evaluation criteria contained in the National Contingency Plan (40 CFR Part 300.430(e) (9) (iii)):

1. Overall protection of human health and the environment
2. Compliance with ARARs
3. Long term effectiveness and permanence
4. Reduction of toxicity, mobility, or volume through treatment
5. Short-term effectiveness
6. Implementability
7. Cost

The Respondent shall conduct the detailed analysis of alternative by evaluating each alternative against the seven evaluation criteria above and then performing a comparative analysis between remedial alternatives. That is, each alternative shall be compared against the others using the evaluation criteria as a basis of comparison.

9. FEASIBILITY STUDY REPORT

The Respondent shall prepare a draft FS report that summarizes the development and screening of remedial alternatives and the detailed analysis of alternatives. Identification and selection of the preferred alternative are reserved by EPA. The Respondent shall refer to the "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (OSWER Directive 9355.3-01, October 1988) for an outline of the FS report and the required report content. The Respondent shall submit the draft FS report to EPA and the State for review and EPA approval in accordance with Section X of the AOC and the schedule contained in Section 10 of this SOW.

EPA, in conjunction with the State and consistent with the National Contingency Plan (40 CFR Part 300.515(e)), will prepare a proposed plan that briefly describes the remedial alternatives analyzed in the feasibility study, proposes a preferred remedial action alternative for OU3, and summarizes the information relied upon to select the preferred alternative. The purpose of the proposed plan is to supplement the RI/FS and provide the public with a reasonable opportunity to comment on the preferred alternative for remedial action, as well as alternative plans under consideration, and to participate in the selection of remedial action at OU3. The Respondent shall provide support in the preparation of the proposed plan as requested by EPA.

EPA will evaluate State acceptance and Community acceptance after comments on the proposed plan have been received.

10. SCHEDULE FOR DELIVERABLES
(under development)

ATTACHMENT A
List of guidance documents
(under development)